

## REMARKS

In this Response, the applicant amends claims 1, 3-5 and 23; cancels claim 2; and adds new claims 29 and 30. Accordingly, claims 1, 3-20, 23-27, and 29-30 are pending in the application.

### **A. Response to Rejections under 35 U.S.C. §102**

**1.** In paragraphs 2 and 3 of the Office Action, the Examiner rejects claims 1 and 7-14 under 35 U.S.C. §102(b) as being anticipated by U.S. patent number 3,930,151 (“Shibata”). The applicant respectfully traverses this rejection, as the membrane (ref. char. 12 of Shibata) cited by the Examiner does not “form a chamber” that allows for “a hydrogen gas collection area in the chamber”. The diaphragm 12 of Shibata is merely an “asbestos cloth” (col. 4, ln 2), and there is no indication that the asbestos cloth enables collection of hydrogen gas. Indeed, a “cloth” structure suggests that the diaphragm is woven of interlaced threads or fibers, and may not sufficiently restrict the passage of hydrogen to form the “hydrogen gas collection area” as claimed. However, to facilitate an accelerated allowance, the applicant amends claim 1 to incorporate the limitation of claim 2. Since Shibata does not disclose any such “photovoltaic cell in the vessel”, Shibata can not anticipate amended claim 1.

**2.** In paragraph 4 of the Office Action, the Examiner rejects claims 1-2, 7-14 , 23, and 26-27 under 35 U.S.C. §102(b) as being anticipated by U.S. patent number 6,198,037 (“Nakata”). In response, the applicant amends independent claims 1 and 23 to indicate that the membrane is “thin and flexible”. Such a thin and flexible membrane is described, for example, in P[0042] of the application as published. Here, the membrane is described in an embodiment where the membrane is only 50-125 microns thick, and in one example, is the product Nafion ® from DuPont Chemical Co. In contrast, Nakata has a “plate” that is “mounted slideably in grooves”, and is sufficiently ridged to have a hole (34a)

formed in it to allow for flow of water. *See, Nakata, col. 8, lns. 52-58.* Further, a set of solar batteries (35) are “mounted piercingly on this partition member 34”. *See, Nakata, col. 8, lns. 31-37.* Thus, the partition member 34 must be sufficiently ridged, and provide sufficient stabilizing support, to securely hold and position a set of solar batteries.

### **B. Response to Rejections under 35 U.S.C. §103**

**1.** In paragraphs 5 and 6 of the Office Action, the Examiner rejects claims 15-19 under 35 U.S.C. §103(a) as being unpatentable over U.S. patent number 3,930,151 (“Shibata”) in view of U.S. patent number 5,512,787 (“Dederick”). Claims 15-19 each depend, directly or indirectly, from amended claim 1. In light of the amendments made to claim 1, discussed in Section A(1) above, the applicant respectfully submits that the Examiner will be unable to maintain a prima facie case as to obviousness for these claims, as not all the claimed limitations are found or suggested in the cited references. Accordingly, claims 15-19 can not be rendered obvious.

**2.** In paragraph 7 of the Office Action, the Examiner rejects claims 3, 15-19, 24, and 25 under 35 U.S.C. §103(a) as being unpatentable over U.S. patent number 6,198,037 (“Nakata”) in view of U.S. patent number 5,512,787 (“Dederick”). Claims 3, 15-19, 24, and 25 each depend, directly or indirectly, from amended claim 1 or amended claim 23. In light of the amendments made to claims 1 and 23, discussed in Section A(2) above, the applicant respectfully submits that the Examiner will be unable to maintain a prima facie case as to obviousness for these claims, as not all the claimed limitations are found or suggested in the cited references. Accordingly, claims 3, 15-19, 24, and 25 can not be rendered obvious.

3. In paragraph 8 of the Office Action, the Examiner rejects claims 4-6 and 20 under 35 U.S.C. §103(a) as being unpatentable over U.S. patent number 6,198,037 ("Nakata") in view of U.S. patent number 4,052,228 ("Russell"). Claims 4-6 and 20 each depend, directly or indirectly, from amended claim 1. In light of the amendments made to claim 1, discussed in Section A(2) above, the applicant respectfully submits that the Examiner will be unable to maintain a prima facie case as to obviousness for these claims, as not all the claimed limitations are found or suggested in the cited references. Accordingly, claims 4-6 and 20 can not be rendered obvious.

### **C. New Claims**

The applicant adds new claims 29 and 30, each of which depends from amended claim 1. Since amended claim 1 is believed to be in a condition for allowance, the applicant believes claims 29 and 30 are also allowable. No new matter was added. *See, for example, the application as published, P[0042].*

### **D. Conclusion**

The applicant respectfully submits that pending claims 1, 3-20, 23-27, and 29-30 are in a condition for allowance. If the Examiner would find it useful, the Examiner is invited to call the undersigned attorney.

Respectfully submitted,



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